

Mineral Industry Surveys

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BISMUTH IN THE THIRD QUARTER 2002

Total bismuth consumption in the United States was 561,000 kilograms during the third quarter of 2002, slightly less than in the second quarter and 3% higher than in the first quarter (table 1).

Comparisons of consumption indicate that each category of use was similar for the second and third quarters (table 2). Total consumption in the third quarter decreased 2%, when compared with that of the third quarter of 2001.

The New York dealer price for bismuth as published in Platts Metals Week began the quarter at a price range of \$2.85-\$3.30 per pound. The price softened somewhat to end the quarter at \$2.75-\$3.15 per pound.

Fortune Minerals Ltd. (Canada) announced the discovery of the NICO cobalt-gold-bismuth deposit located 160 kilometers northwest of Yellowknife, Northwest Territories, Canada. Described as a near-surface deposit, the NICO discovery is amenable to open pit extraction of low-grade resources; selective mining of a higher grade core is possible with underground bulk mining methods. Ores from the mine would be processed by simple flotation to generate auriferous bismuth and cobalt concentrates for sale or subsequent processing to higher value products. Although Fortune believes cobalt is the most important payable metal in the NICO deposit, the company

reports that the deposit also contains one of the largest resources of bismuth in the world (Fortune Minerals Ltd., 2002).

Advanced Casting Technologies (ACT) Inc., Troy, MI, announced the development of heat-treatable aluminum-silicon alloys with a bismuth additive for continuous self-lubricity, low friction, and high seizure loads. The alloy contains 2.5%-3.2% bismuth. Designed for casting and forging, the alloys reportedly enable improved fluidity, eliminate soldering to the die, and provide low shrinkage density (Advanced Materials and Processes, 2002).

Officials at China's Hunan Shizhuyuan Nonferrous Metals Mine announced that it is maintaining its bismuth output at 600 metric tons per year in 2002; the production level matches the mine's full capacity. Two-thirds of the firm's bismuth output was exported (Platts Metals Week, 2002).

References Cited

- Advanced Materials and Processes, 2002, Bismuth added to Al-Si alloy enables low friction: Advanced Materials and Processes, v. 160, no. 12, December, p. 7.
- Fortune Minerals Ltd., 2002, the NICO cobalt-gold-bismuth project: London, Ontario, Canada, Fortune Minerals Ltd. news release, November 13, 4 p.
- Platts Metals Week, 2002, Shizhuyuan bismuth output steady: Platts Metals Week, v. 73, no. 45, November 11, p. 6.

TABLE 1
SALIENT BISMUTH STATISTICS 1/

(Kilograms, unless otherwise specified)

	2001	2002 e/			
		First quarter	Second quarter	Third quarter	Year to date
Consumption	2,200,000	546,000	564,000	561,000	1,670,000
Exports 2/	541,000	44,700	20,800	NA	NA
Imports for consumption	2,220,000	364,000	371,000	NA	NA
Price per pound, dealer, end of period	\$3.74	\$3.20	\$3.30	\$3.01	XX
Stocks, end of period, consumer	95,200	88,800	97,000	93,700	XX

e/ Estimated. NA Not available. XX Not applicable.

1/ Data are rounded to no more than three significant digits.

2/ Comprises bismuth metal and the bismuth content of alloys and waste and scrap.

TABLE 2
BISMUTH METAL CONSUMED IN THE UNITED STATES, BY USE 1/

(Kilograms)

Use	2001	2002 e/			
		First quarter	Second quarter	Third quarter	Year to date
Chemicals 2/	805,000	199,000	206,000	205,000	610,000
Bismuth alloys	981,000	241,000	250,000	248,000	739,000
Metallurgical additives	369,000	94,800	96,000	96,500	287,000
Other	45,000	11,000	11,500	11,500	34,000
Total	2,200,000	546,000	564,000	561,000	1,670,000

e/ Estimated.

1/ Data are rounded to no more than three significant digits, may not add to totals shown.

2/ Includes industrial and laboratory chemicals, cosmetics, and pharmaceuticals.

TABLE 3
U.S. EXPORTS OF BISMUTH METAL, AND WASTE AND SCRAP, BY COUNTRY 1/

(Kilograms, metal content)

Country	2001	2002 2/				
		June	Second quarter	July	August	January-August
Australia	306	--	--	--	--	--
Belgium	194,000	--	--	--	--	759
Canada	89,700	4,020	11,900	84	3,450	28,500
China	11,100	--	--	--	--	1,440
Dominican Republic	2,380	184	185	--	--	342
Germany	90,300	--	--	--	--	6
Hong Kong	101	81	178	--	20	271
Israel	1,000	--	--	--	128	167
Japan	--	--	--	--	--	66
Korea, Republic of	--	4	4	--	--	4
Mexico	91,100	--	4,120	3,970	113	30,000
Netherlands	36,600	--	798	--	--	5,990
Peru	872	--	2,000	--	--	4,000
Philippines	2,070	--	--	--	--	--
Russia	4,760	1,540	1,540	--	--	1,540
Singapore	260	--	--	--	--	150
United Kingdom	12,600	--	64	--	--	64
Venezuela	4,250	--	--	--	--	--
Total	541,000	5,830	20,800	4,060	3,710	73,300

-- Zero.

1/ Data are rounded to no more than three significant digits; may not add to totals shown.

2/ September data were not available at the time of publication.

Source: U.S. Census Bureau.

TABLE 4
U.S. IMPORTS FOR CONSUMPTION OF BISMUTH METAL, BY COUNTRY 1/

(Kilograms)

Country	2001	2002 2/				
		June	Second quarter	July	August	January-August
Bahamas, The	--	--	--	--	--	390
Belgium	728,000	61,300	133,000	95,500	62,300	417,000
Canada	42,500	24,600	27,800	7,030	464	42,100
China	501,000	10,700	60,600	218,000	--	325,000
Denmark	52	--	--	--	--	--
France	2,820	--	--	--	--	--
Germany	57,800	--	92	--	--	835
Hong Kong	--	--	--	--	19,100	38,900
Italy	506	--	--	208	--	208
Japan	6,950	260	750	280	--	2,370
Mexico	605,000	18,000	108,000	53,800	36,400	314,000
Netherlands	1,160	--	--	65	17	82
Peru	--	--	19,500	--	--	19,500
Spain	34,000	--	--	--	--	--
United Kingdom	241,000	--	21,800	39,800	--	109,000
Total	2,220,000	115,000	371,000	415,000	118,000	1,270,000

-- Zero.

1/ Data are rounded to no more than three significant digits; may not add to totals shown.

2/ September data were not available at the time of publication.

Source: U.S. Census Bureau.